

## Mathematics: Communication & Problem-Solving ... 24-Point Rubric

| CATEGORY   | 4   | 3   | 2   | 1  |
|--|---|---|---|--|
| Mathematical Concepts  | Response shows ... complete understanding of the mathematical concepts used to solve problems.                                    | ... substantial understanding of the mathematical concepts used to solve problems.                      | ... some understanding of the mathematical concepts needed to solve problems.   | ... very limited understanding of underlying concepts needed to solve problems.  |
| Computational Accuracy   | Student shows ...work where 90-100% of the steps and solutions have no mathematical errors.                                       | ... work where most (75-89%) of the steps and solutions have no math errors.                            | ... work where steps/ solutions show frequent math errors; student can find/ explain errors when guided to check work.    | ... work where steps/ solutions show frequent math errors; student is unable to uncover and explain pattern of errors. |
| Strategy and Procedures<br><br>"efficient"<br>...quick & direct<br>"effective"<br>... correct answer | Student typically uses an efficient and effective strategy to solve problems.   | Student typically uses an effective strategy to solve problems, but may miss more efficient strategies. | Student sometimes uses an effective strategy to solve problems, but not consistently.                                     | Student rarely uses an effective strategy to solve problems.   |
| Explanation<br><br>"picture"<br>...number line, table, sketch, map, diagram, flow chart, etc.        | Explanation is detailed and clear, includes pictures, numbers, words. There is evidence of checking for reasonableness of answer. | Explanation is clear, includes 2/3 of pictures, numbers, words..  | Explanation is a little difficult to understand, but shows key parts. Reader may be left to guess how parts fit together. | Explanation is difficult to understand and is missing key parts OR was not included.                                   |
| Diagrams and Sketches  | Pictures are ...clear and greatly add to the reader's understanding of the procedure(s).  | ... clear and easy to understand as representing some aspect(s) of the problem.                         | ... somewhat difficult to understand.   | ... difficult to understand or are not used.   |
| Neatness and Organization  | The work is ...presented in a neat, clear, organized way that is easy to read; answer is clearly labeled.                         | ... presented in a neat, organized way that is usually easy to read.                                    | ... presented in an organized way but may be hard to read at times; answer may be difficult to pick out.                  | ... sloppy and unorganized. It is hard to know what information goes together or to locate the answer.                 |